

JAPANESE

[JP,06-157955,A]

CLAIMS DETAILED DESCRIPTION TECHNICAL FIELD EXAMPLE CORRECTION OR AMENDMENT

[Translation done.]

* NOTICES *

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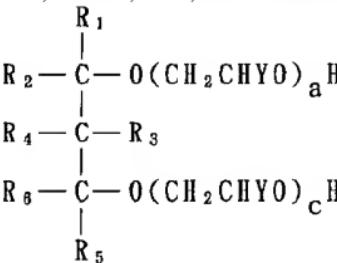
CLAIMS

[Claim(s)]

[Claim 1](a) An aqueous carrier medium;

(b) Colorant; and (c) An aqueous ink composition containing at least one curl inhibitor of sufficient quantity to remove curl in a regular paper printing element substantially.

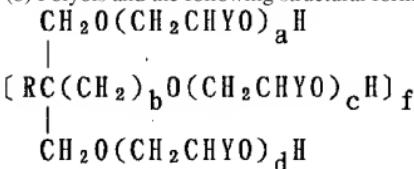
[Claim 2]A curl inhibitor has at least 4.5% of water solubility at 25 **, and it is (a). 1,3-diol, 1,3,5-triol, amino-1,3-diol, and the following structural formula : [Formula 1]



[Independently R¹, R₂, R₄, R₅, and R₆ among a formula H, Are C_nH_{2n+1} (it is n= 1-4 here) or C_nH_{2n}O(CH₂CHY O)_bH (it is n= 1-6 and b= 0-25 here), and; R₃=H, C_nH_{2n+1} (it is n= 1-4 here), C_nH_{2n}O

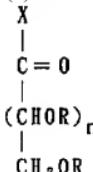
$(CH_2CHYO)_bH$ (it is $n=1-6$ and $b=0-25$ here), or $(CH_2)_cNXZ$ (here -- X and Z -- independently -- H -- it CH_{-3} (ing) and) Are C_2H_5 or $C_2H_4O(CH_2CHYO)_dH$ (it is $d=0-25$ and $e=0-3$ here), and; Y=H or CH_3 ; a, and c independently. The polyoxyalkylene derivative which has that it is 0-25 and the totals of; and a CH_2CHYO unit are 0-100];

(b) Polyols and the following structural formula :[Formula 2]



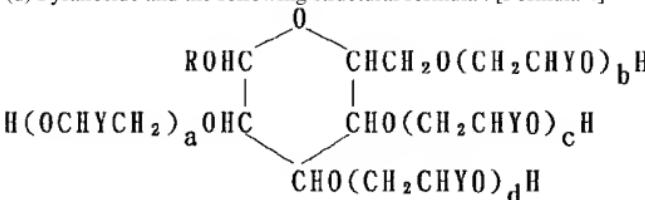
[Among a formula, independently, R is H, C_nH_{2n+1} (it is $n=0-4$ here), or $CH_2O(CH_2CHYO)_eH$, and; Y=H, CH_3 ; b=0, or 1; a, Although c, d, and e are 0-40 independently and the totals of; f=1-6; and a CH_2CHYO unit are 0-100, The polyoxyalkylene derivative which has that however, e is not 0 when it is a, b, c, d= 0, and f= 1 and R is not H but a, c, d= 0, b, and f= 1];

(c) The following structural formula : [Formula 3]



[The inside of a formula, X=H, OH, $CH_2O(CH_2CHYO)_aH$, It is $O(CH_2CHYO)_bH$ or OM (OM is a metallic cation here), and is $:n=2-7$; R= $(CH_2CHYO)_c$ (here). Compound which has that Y=H or CH_3 ; a, b, and c are 0-25 independently, and the totals of; and a CH_2CHYO unit are 0-125];

(d) Pyranoside and the following structural formula : [Formula 4]



The polyalkoxy alkylene derivative which has [it is inside of a formula, R=H, or C_nH_{2n+1} (it is $n=0-4$ here), and; a, b, c, and d are 0-30 independently, and the totals of; Y=H or CH_3 ; and a CH_2CHYO unit are 0-120];

(e) Structural-formula: $H-(OCH_2CHY)_xOH$ (inside of formula, Y=H or CH_3 , and $x=3-20$); and the (f)

structural formula which are the following : $Z_1Z_2N(CH_2CH_2NZ_3)_nZ_4$ The inside of [type, Z_1 , Z_2 , Z_3 , and Z_4 are aH (here) independently (CH_2CHYO). The ink composition according to claim 1 chosen from the group which consists of a polyoxyalkylene derivative of the aliphatic polyamine which has that it is $Y=H$ or CH_3 ; $n=1-20$; a is $0-20$ independently, and the totals of; and a CH_2CHYO unit are $3-200$.

[Claim 3]The ink composition according to claim 2 which is a pigment dispersion object object in which colorant contains paints and a polymers dispersing agent.

[Claim 4]The ink composition according to claim 2 whose colorant is a color.

[Claim 5]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (a).

[Claim 6]The ink composition according to claim 5 chosen from a group which R_3 and R_4 become from H and C_nH_{2n+1} (here, it is $n=1-4$) independently.

[Claim 7]The ink composition according to claim 5 whose curl inhibitor is 2,2-dimethyl- 1,3-propanediol.

[Claim 8]The ink composition according to claim 5 whose R_3 is NXZ (here, X is chosen from a group which consists of H, CH_3 , C_2H_5 , and $C_2H_4 OH$).

[Claim 9]The ink composition according to claim 5 which is total = $2-50$ of a CH_2CHYO unit.

[Claim 10]The ink composition according to claim 5 whose curl inhibitors are the 3-methyl- 1 and 3 and 5-pentanetriol.

[Claim 11]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (b).

[Claim 12]The ink composition according to claim 11 which is total = $3-50$ of a CH_2CHYO unit.

[Claim 13]The ink composition according to claim 11 whose curl inhibitor is a 2-ethyl-2-(hydroxymethyl)-1,3-propanediol.

[Claim 14]The ink composition according to claim 11 whose curl inhibitor is a 2-methyl-2-(hydroxymethyl)-1,3-propanediol.

[Claim 15]The ink composition according to claim 11 whose curl inhibitor is sorbitol.

[Claim 16]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (c).

[Claim 17]The ink composition according to claim 16 whose curl inhibitor is alpha D-glucose.

[Claim 18]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (d).

[Claim 19]The ink composition according to claim 18 whose curl inhibitor is an oxyalkylene derivative of methyl alpha D-glucoside.

[Claim 20]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (e).

[Claim 21]The ink composition according to claim 20 chosen from a group which a curl inhibitor becomes from triethylene glycol which has a molecular weight of the range of 200-400, tetraethylene glycol, and a polyethylene glycol.

[Claim 22]The ink composition according to claim 2 which is a compound in which a curl inhibitor has a structural formula (f).

[Claim 23]The ink composition according to claim 22 whose curl inhibitor is a polyoxyethylene derivative of ethylenediamine.

[Claim 24]An ink composition which the above-mentioned polymers dispersing agent is the ink composition according to claim 3 containing block copolymer, and makes it together with weight of about 0.1 to 8% of paints, 0.1 to 8% of block copolymer, and a curl inhibitor on the basis of gross weight of an ink composition, and contains 84 to 99.8% of aqueous carrier medium.

[Claim 25]The ink composition according to claim 4 which makes it together with weight of about 0.01 to 20% of color, and a curl inhibitor on the basis of gross weight of an ink composition, and contains 80 to 99.99% of aqueous carrier medium.

[Claim 26]The ink composition according to claim 4 which contains further polymer chosen from a group which consists of AB block polymer, BAB block polymer, ABC block polymer, and random polymer.

[Claim 27]an ink jet printer which has the color gamut by which the above-mentioned ink was improved -- service water -- the ink composition according to claim 4 in which it is some sex color system ink sets, and the above-mentioned ink contains a curl inhibitor including cyan ink, magenta ink, and yellow ink, respectively in the above-mentioned ink set.

[Claim 28]Cyan ink contains 1.75 to 2.5% of acid blue 9 color, The ink composition according to claim 27 in which yellow ink contains 1.75 to 3% of acid yellow 23 color, and magenta ink contains 1 to 3% of reactive reactivity red 180 color, and 0.3 to 1.5% of acid red 52 color.

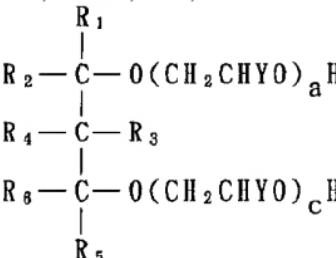
[Claim 29]The ink composition according to claim 1 in which a curl inhibitor exists in 10 to 75% of the weight of quantity on the basis of gross weight of ink.

[Claim 30]The ink composition containing jet ink in which the above-mentioned ink composition has the viscosity of 20 or less cp at surface tension of about 18 to 70 dyne/cm, and 20 ** according to claim 1.

[Claim 31]The ink composition according to claim 1 which furthermore contains a surface-active agent.

[Claim 32]It is a reducing method of curl of paper of a regular paper print element which consists of a process of usually giving an ink composition intrinsically to a base paper, A method containing at least one curl inhibitor of sufficient quantity for the above-mentioned ink composition to remove substantially curl of an aqueous carrier medium, colorant, and the above-mentioned common base paper.

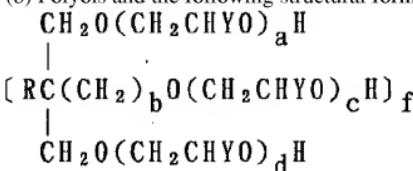
[Claim 33]A curl inhibitor has at least 4.5% of water solubility at 25 **, and it is (a). 1,3-diol, 1,3,5-triol, amino-1,3-diol, and the following structural formula : [Formula 5]



[Independently R¹, R₂, R₄, R₅, and R₆ among a formula H, Are C_nH_{2n+1} (it is n= 1-4 here) or C_nH_{2n}O

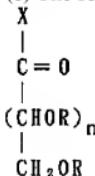
$(\text{CH}_2\text{CHYO})_b\text{H}$ (it is $n=1-6$ and $b=0-25$ here), and; $\text{R}_3=\text{H}$, $\text{C}_n\text{H}_{2n+1}$ (it is $n=1-4$ here), $\text{C}_n\text{H}_{2n}\text{O}$ $(\text{CH}_2\text{CHYO})_b\text{H}$ (it is $n=1-6$ and $b=0-25$ here), or $(\text{CH}_2)_c\text{NXZ}$ (here -- X and Z -- independently -- H -- it CH_3 (ing) and) Are C_2H_5 or $\text{C}_2\text{H}_4\text{O}(\text{CH}_2\text{CHYO})_d\text{H}$ (it is $d=0-25$ and $e=0-3$ here), and; $\text{Y}=\text{H}$ or CH_3 ; a, and c independently. The polyoxyalkylene derivative which has that it is 0-25 and totals of; and a CH_2CHYO unit are 0-100];

(b) Polyols and the following structural formula : [Formula 6]



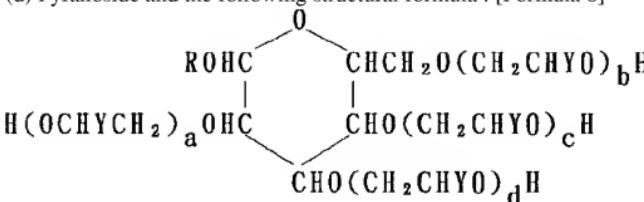
[Among a formula, independently, R is H, $\text{C}_n\text{H}_{2n+1}$ (it is $n=0-4$ here), or $\text{CH}_2\text{O}(\text{CH}_2\text{CHYO})_e\text{H}$, and; $\text{Y}=\text{H}$, CH_3 ; $b=0$, or 1; a, Although c, d, and e are 0-40 independently and the totals of; $f=1-6$; and a CH_2CHYO unit are 0-100, The polyoxyalkylene derivative which has that however, e is not 0 when it is a, b, c, $d=0$, and $f=1$ and R is not H but a, c, $d=0$, b, and $f=1$];

(c) The following structural formula : [Formula 7]



[The inside of a formula, $\text{X}=\text{H}$, OH, $\text{CH}_2\text{O}(\text{CH}_2\text{CHYO})_a\text{H}$, It is $\text{O}(\text{CH}_2\text{CHYO})_b\text{H}$ or OM (OM is a metallic cation here), and is $:n=2-7$; $\text{R}=(\text{CH}_2\text{CHYO})_c$ (here). Compound which has that $\text{Y}=\text{H}$ or CH_3 ; a, b, and c are 0-25 independently, and the totals of; and a CH_2CHYO unit are 0-125];

(d) Pyranoside and the following structural formula : [Formula 8]



The polyalkoxy alkylene derivative which has [it is inside of a formula, $\text{R}=\text{H}$, or $\text{C}_n\text{H}_{2n+1}$ (it is $n=0-4$ here), and; a, b, c, and d are 0-30 independently, and the totals of; $\text{Y}=\text{H}$ or CH_3 ; and a CH_2CHYO unit are 0-120];

(e) Structural-formula:H-(OCH₂ CHY)_xOH (inside of formula, Y=H or CH₃, and x= 3-20); and the (f) structural formula which are the following : Z₁Z₂N(CH₂CH₂NZ₃)_nZ₄ The inside of [type, Z₁, Z₂, Z₃, and Z₄ are _aH (here) independently (CH₂CHYO). The method according to claim 32 chosen from the group which consists of a polyoxyalkylene derivative of the aliphatic polyamine which has that it is Y=H or CH₃; ;n=1-20;a is 0-20 independently, and the totals of; and a CH₂CHYO unit are 3-200].

[Claim 34] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (a).

[Claim 35] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (b).

[Claim 36] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (c).

[Claim 37] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (d).

[Claim 38] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (e).

[Claim 39] A way according to claim 33 a curl inhibitor is a compound which has a structural formula (f).

[Claim 40] A way according to claim 33 the above-mentioned colorant contains paints and a polymers dispersing agent.

[Claim 41] A way according to claim 33 the above-mentioned colorant contains a color.

[Claim 42] A way according to claim 41 the above-mentioned ink composition contains AB block polymer, BAB block polymer, ABC block polymer, and random polymer further.

[Claim 43] A method according to claim 33 including that the above-mentioned process of the above-mentioned ink composition containing ink jet ink, and giving the above-mentioned ink to a base material gives the above-mentioned ink using an ink jet printer.

[Translation done.]